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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,349	11/30/2004	B. Mulcahy	41557-211276	3062
26694	7590	04/06/2007	EXAMINER	
VENABLE LLP			TRAN, THUY V	
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WASHINGTON, DC 20043-9998				
			ART UNIT	PAPER NUMBER
			2821	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/06/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/516,349

Applicant(s)

MULCAHY ET AL.

Examiner

Thuy V. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment submitted on 03/14/2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 21-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 9, 10 and 21-29 is/are rejected.
- 7) ☒ Claim(s) 7 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11/30/07 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is responsive to the Applicants' amendment submitted on 03/14/2007.

In virtue of this amendment, claims 11-20 are canceled, and thus, claims 1-10 and 21-29 are now presented in the instant application.

Upon reconsideration, the indicated allowability of claims 1-10, 21, and 23-29 in the Office Action mailed 09/26/2006 is withdrawn in view of the teachings of prior art of record to Oguro et al. (U.S. Patent No. 4,205,257), Takada (U.S. Patent No. 4,743,805), and Skowron (U.S. Patent No. 2,766,403), and therefore, the finality of that action is hereby withdrawn.

Rejections based on the stated references follow:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6, 9-10, 21-22, 24, and 27-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Oguro et al. (U.S. Patent No. 4,205,257; hereinafter "Oguro").

With respect to claim 1, Oguro discloses, in Fig. 4, a magnetron of the type having a cathode (e.g. [5] in Fig. 1; not shown in Fig. 4) and a surrounding anode [1] (Fig. 1), and a plurality of cavities (between vanes [2]; see Fig. 4) defined by anode vanes [2] (see Fig. 4) comprising at least a first ring strap [31] (see Fig. 4) arranged generally around the cathode and in electrical contact with alternate ones of the vanes (see Fig. 4 or Fig. 1), the first ring strap (see col. 2, lines 25-28; not shown in Fig. 4) having one or more protruding regions (see Fig. 4; col. 2, lines 25-28) which protrude in a radial direction between the cathode and anode at one or more

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positions (between the vanes [2] to which the first ring strap is connected; see Fig. 4), each protruding region inherently increasing capacitance (due to electric charge during vibration resonance upon faces of related components such as between the first and second ring straps or between the first ring strap and anode vanes to which the first ring strap is not connected) so as to increase overall capacitance between the first strap and anode vanes [2] to which the first strap is not connected (as explained above), the one or more protruding regions causing localized variations in capacitance (due to shape of the first ring strap).

With respect to claim 2, Oguro discloses, in Fig. 4, that the one or more positions are between the anode vanes to which the at least first ring strap is connected.

With respect to claim 3, Oguro discloses, in Fig. 4, that the protruding regions protrude radially inwards.

With respect to claim 4, Oguro discloses, in Fig. 4, that the protruding regions protrude towards tips of the anode vanes [2].

With respect to claim 5, Oguro discloses, in Fig. 4 and col. 2, lines 25-28, a second strap [31] is generally surrounded by the first ring strap, wherein the one or more protruding regions of the first ring strap protrude towards the second strap [31] so as to inherently increase the capacitance between the first and second straps (due to electric charge during vibration resonance upon faces of related components such as between the first and second ring straps or between the first ring strap and anode vanes to which the first ring strap is not connected).

With respect to claim 6, Oguro discloses, in Fig. 4, that the protruding regions are arranged to inherently increase the capacitance for alternate vanes (as explained above).

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With respect to claim 9, Oguro discloses, in Fig. 4 and col. 2, lines 25-28, that the protruding regions comprise deviations in the first strap ring itself.

With respect to claim 10, Oguro discloses, in Fig. 4 and col. 2, lines 25-28, that the protruding regions comprise thickenings of the first strap ring.

With respect to claim 21, Oguro discloses, in Fig. 4 and col. 2, lines 25-28, that the first strap has a plurality of protruding regions.

With respect to claim 22, Oguro discloses, in Fig. 4 and col. 2, lines 25-28, that the one or more protruding regions are substantially periodically spaced around at least a portion of the first strap.

With respect to claim 24, Oguro discloses, in Fig. 4, that the second strap [31] comprises a closed ring.

With respect to claim 27, Oguro discloses, in Fig. 4 and col. 2, lines 25-28, that the second strap [31] is in contact alternately with others of the vanes.

With respect to claim 28, Oguro discloses, in Fig. 4 and col. 2, lines 25-28, that the second strap [31] includes at least one protruding region.

With respect to claim 29, Oguro discloses, in Fig. 4 and col. 2, lines 25-28, that the magnetron includes a plurality of straps, at least some of which have at least one protruding region.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill

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in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oguro in view of Takada (U.S. Patent No. 4,743,805).

With respect to claim 23, Oguro discloses all of the claimed subject matter, as expressly recited in claim 1, except that the first strap comprises an open ring.

Takada discloses, in Fig. 20, a strap comprising an open ring.

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the magnetron device of Oguro with an open ring in the first strap so as to facilitate the connection with related parts since such an arrangement of the open ring for the stated purpose has been a common practice in the art as evidenced by the teachings of Takada (see col. 6, lines 1-10).

5. Claims 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oguro in view of Skowron (U.S. Patent No. 2,766,403).

With respect to claims 25-26, Oguro discloses all of the claimed subject matter, as expressly recited in claim 1, except for the first strap being flexible and adjustable.

Skowron discloses, in Fig. 1, a pair of straps [15, 16], which are adjustable and flexible.

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the magnetron device of Oguro by employing a flexible or adjustable strap so as to facilitate the connection with related parts since such an arrangement of the flexible/adjustable

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strap for the stated purpose has been well known in the art as evidenced by the teachings of Skowron (see col. 2, line 62 – col. 3, line 4).

Allowable Subject Matter

6. Claims 7-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

Prior art fails to disclose or fairly suggest a magnetron of the type having a cathode and a surrounding anode wherein the one or more protruding regions are arranged asymmetrically around a portion of the at least first ring strap, in combination with the remaining claimed limitations as called for in claim 7 (claim 8 would be allowable since it is dependent on claim 7).

Remarks on drawings

8. Upon reconsideration, the drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “alternate connection” (in line 3 of claim 1) and “closed ring” (in line 2 of claim 24) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must

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be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuy V. Tran whose telephone number is (571) 272-1828. The examiner can normally be reached on M-F (8:00 AM -4:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Owens Douglas can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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A handwritten signature in black ink, appearing to read 'Thuy V. Tran', written in a cursive style.

THUY V. TRAN
PRIMARY EXAMINER